

**REMARKS**

Claims 1-20 are currently pending in the present application. Claim 1 has been amended. Reconsideration of the application is respectfully requested in view of the following responsive remarks. For the Examiner's convenience and reference, Applicants' remarks are presented in the order in which the corresponding issues were raised in the Office Action.

In the office action of August 16, 2006, the following actions were taken:

(1) Claims 1-4, 6, 8-9, 13-14, and 18 were rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Pat. No. 6,194,032 (hereinafter "Svedberg").

(2) Claims 10, 11, 16, 17, and 20 were rejected under 35 U.S.C. 103(a) as being unpatentable over Svedberg.

(3) Claim 5 was rejected under 35 U.S.C. 103(a) as being unpatentable over Svedberg in view of JP 08-319575 (hereinafter "Takeda").

(4) Claims 7 and 15 were rejected under 35 U.S.C. 103(a) as being unpatentable over Svedberg in view of U.S. Pat No. 4,301,196 (hereinafter "McCormack").

(5) Claim 19 was rejected under 35 U.S.C. 103(a) as being unpatentable over Svedberg in view of U.S. Pat. No. 3,918,927 (hereinafter "Wells").

(6) Claims 1-4, 6-18, and 20 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 6,120,588 (hereinafter "Jacobson") in view of McCormack.

(7) Claim 5 was rejected under 35 U.S.C. 103(a) as being unpatentable over Jacobson in view of McCormack and further in view of Takeda.

(8) Claim 19 was rejected under 35 U.S.C. 103(a) as being unpatentable over Jacobson in view of McCormack and further in view of Wells.

It is respectfully submitted that the presently pending claims be examined and allowed.

Rejections Under 35 U.S.C. § 102

The Examiner has rejected claims 1-4, 6, 8-9, 13-14, and 18 as being anticipated by Svedberg. Before discussing the rejection, it is thought proper to briefly state what is required to sustain such a rejection. It is well settled that "[a] claim is anticipated only if each and every element as set forth in the claims is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil of California*, 814 F.2d 628, 2 U.S.P.Q. 2d 1051, 1053 (Fed. Cir. 1987). In order to establish anticipation under 35 U.S.C. 102, all elements of the claim must be found in a single reference. *Hybritech, Inc. v. Monoclonal Antibodies, Inc.*, 231 U.S.P.Q. 81, 90 (Fed. Cir. 1986), *cert. denied* 107 S.Ct. 1606 (1987). In particular, as pointed out by the court in *W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 220 U.S.P.Q. 303, 313 (Fed. Cir. 1981), *cert denied*, 469 U.S. 851 (1984), "anticipation requires that each and every element of the claimed invention be disclosed in a prior art reference." "The identical invention must be shown in as complete detail as is contained in the...claim." *Richardson v. Suzuki Motor Co.* 9 U.S.P.Q. 2d 1913, 1920 (Fed. Cir. 1989). A discussion of Svedberg is provided

Svedberg

Svedberg discloses a gel composition for electroless plating that includes metal ions, a reducing agent, and a polymeric thickening agent. The gel may further include a stabilizer, buffering agent, chelating agent, surfactant, and/or humectant.

Claim 1 has been amended to clarify that the metal composition and reducing agent composition are distinct compositions that are brought together by the ink-jetting process. Svedberg teaches a gel having the metal ions and reducing agent admixed into a single composition. As such, the amended claim clearly contains an element that is not present in Svedberg. Therefore, Svedberg cannot anticipate the current application, and the Applicant respectfully requests that the Examiner withdraw this rejection.

Rejections Under 35 U.S.C. § 103

The Examiner has rejected claims 1-20 under 35 U.S.C. 103(a) as being unpatentable over several references.

The Applicant does not deem it necessary to recite the entire case law standard required in order to establish a *prima facie* case of obviousness. However, the Applicant would like to briefly remind the Examiner of the required three criteria for a *prima facie* case of obviousness, namely that the asserted references as modified or combined must: 1) teach or suggest each and every element of the claimed invention; 2) provide sufficient motivation for the modification or combination asserted; and 3) provide a sufficient likelihood of successfully making the modification or combination.

Specifically, the Examiner has rejected claims 1-20 as being obvious in view various combinations of Svedberg, Jacobson, McCormack, Wells, and Takeda. As such, a brief description of these references is believed to be in order.

Svedberg

Again, Svedberg discloses a gel composition for electroless plating that includes metal ions, a reducing agent, and a polymeric thickening agent. The gel may further include a stabilizer, buffering agent, chelating agent, surfactant, and/or humectant.

Jacobson

Jacobson teaches electronically active inks for electroless plating. The inks may be applied by an ink jet system. However, as noted by the Examiner, Jacobson does not teach an electroless active layer.

McCormack

McCormack teaches electroless copper deposition. The method includes the use of stannous chloride and palladium chloride.

Wells

Wells teaches a standard electroplating technique. The Examiner alleges that Wells discloses the use of an acidic palladium chloride solution to mar the surface of the substrate. However, Wells teaches that the acidic

palladium chloride solution is used "to remove the tin salts." See col. 11, line 60. As such, Wells does not teach specific marring of the substrate.

Takeda

Takeda teaches the use of  $\text{Pd}(\text{NH}_3)_4\text{Cl}_2$  as a palladium salt for electroless plating over carbon fine grains.

The Examiner has rejected the pending claim set over Svedberg in combination with several references. However, as previously discussed, claim 1 has been amended to require that the metal composition and the reducing agent composition are distinct from each other. Therefore, Svedberg does not teach each element of the present invention. Furthermore, the references cited in combination with Svedberg do not teach an ink jet system having a separate metal and reducing agent. Therefore, none of the Svedberg combinations teach each element of the present invention. As such, the Applicant respectfully requests that the present Svedberg 103 rejections be withdrawn.

The Examiner has rejected the pending claim set over Jacobson in combination with several references. The rejections use Jacobson as the primary reference in combination with McCormack as a secondary reference. As previously discussed, Jacobson teaches an ink jet system for printing inks containing metal ions and a reducing agent. However, as noted by the Examiner, Jacobson does not teach an electroless active layer. It is also pointed out that Jacobson does not ink-jet onto an electroless active layer, nor is the reducing agent and the contacted with the metal composition on the electroless active layer. The Examiner uses McCormack, which teaches the use of stannous chloride and palladium chloride as a sensitizing and seeding solution, to cure the at least three missing elements of Jacobson. It is noted that the current claim set has been amended to include that the metal composition and the reducing agent composition are distinct and that reduction occurs on the electroless layer. Therefore, as currently amended, Jacobson does not teach the step of defining a pattern on the electroless layer nor does it teach having the metal ion reduced on the electroless layer.

In order to establish a *prima facie* case of obviousness, the Examiner must have some motivation or reason for combining references. The Examiner has referred to the phrase in Jacobson, "many other chemistries known in the art of electroless plating can be used" as justifying the present combination.

However, such a generic reference does not give motivation to use a specific compound or solution. The case law is clear on this issue. The motivation must show the advantage to be derived. *In re Sernaker*, 217 U.S.P.Q. 1, 5-6, (Fed. Cir. 1983) ("The lesson of this case appears to be that prior art references in combination do not make an invention obvious unless something in the prior art references would suggest the advantage to be derived from combining their teachings..." (underlining added)).

Nothing in Jacobson suggests the advantage to be derived from using the electroless layer found in McCormack, nor does it provide other chemistries that would benefit from the combination. In fact, Jacobson discloses an ink jet system for "depositing metallic or semiconductive traces" without an electroless layer. See col. 9, lines 63-66. As such, there would be no benefit to add an electroless layer, as Jacobson accomplishes the purpose of his invention without the layer.

The only possible motivation for making the present combination would arise from impermissible hindsight. The Examiner has reviewed the present invention and found different elements in specific references and now is attempting to claim the invention as obvious. However, such a deconstruction is not allowed under current case law, as described in the MPEP. The perspective must be not only what one skilled in the art, without the present invention as a guide, could have combined but would have had motivation to combine. A skilled person in the art could not have reviewed Jacobson and arrived at the present invention, since Jacobson provides no reason or motivation to use an electroless layer. Furthermore, the Examiner is combining a sophisticated computer controlled digital ink-jet printing system with a conventional "bath" system found in traditional electroplating systems. See col. 6, lines 51-58.

Therefore, the Applicant submits that the present 103 rejections using combinations of Jacobson and McCormack are improper, and respectfully requests that the Examiner withdraw these rejections.

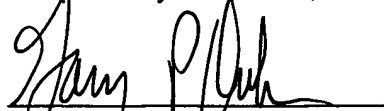
Additionally, the Applicant wishes to address the Wells reference. As previously discussed, the Wells reference does not teach marring of the substrate as argued by the Examiner; rather the acidic palladium chloride solution is used "to remove the tin salts." See col. 11, line 60. Therefore, the Applicant submits that the Wells reference does not teach the element, i.e. marring the substrate, as argued by the Examiner. As such, the Applicant respectfully requests that the 103 rejections using the Wells reference be withdrawn.

In view of the foregoing, Applicants believe that claims 1-20 present allowable subject matter and allowance is respectfully requested. If any impediment to the allowance of these claims remains after consideration of the above remarks, and such impediment could be removed during a telephone interview, the Examiner is invited to telephone the undersigned attorney at (801) 566-6633 so that such issues may be resolved as expeditiously as possible.

Please charge any additional fees except for Issue Fee or credit any overpayment to Deposit Account No. 08-2025.

Dated this 16<sup>th</sup> day of November, 2006.

Respectfully submitted,



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